Ismael BEN-YELUN

AERONAUTICAL ENGINEER

PhD Candidate

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https://scholar.google.com/citations?user=nKBUYzYAA

EXPERIENCE

Assistant Professor and PhD Student
Sep 2020 – Currently

Universidad Politécnica de Madrid
Computational Mechanics:
- Topology Optimization; Mechanical metamaterials
- ML applications for Structural Health Monitoring (SHM)

Teaching Assistant. Subjects:
- Solid Mechanics; Strength of Materials and Elasticity

Supervision of 6 end-of-degree projects:
- 2 published manuscripts

Research Fellow (France)
May 2023 – Oct 2023

École Nationale Supérieure d'Arts et Métiers
Data-driven description of lattice materials

Research Fellow (UK)
Sep 2022 – Feb 2023

University of Cambridge
Robust topology optimization of lattice structures with spatially correlated uncertainties

Stress & ML Engineer intern
Mar 2019 – Mar 2020

AIRBUS Spain
Surrogate models development for airframe structural analysis. Full Data Analytics Cycle

Research Collaborator
Sep 2018 – Nov 2019

Universidad Politécnica de Madrid
Data-driven models for hyperelastic materials

Simulation Engineer intern
Jul 2018 – Aug 2018

GMV
Inertial Measurement Units (IMUs) simulation

Manufacturing Eng. trainee
Jan 2017 – May 2017

AIRBUS Spain
Lean Manufacturing and layout management

Research Collaborator
Sep 2016 – Jul 2017

Universidad Politécnica de Madrid
Electricity cost optimization in an energy plant

EDUCATION

Machine Learning Course
Feb 2019 – Apr 2019

Coursera (Stanford University)
Machine Learning and Neural Networks

Master of Science in Aeronautical Engineering
Sep 2017 – Sep 2019

Universidad Politécnica de Madrid
Best record in Aircraft Intensification
Master Thesis in Structural Analysis prediction with Neural Networks: *Cum Laude* with honors

Bachelor's Degree in Aerospace Engineering
Sep 2013 – Jul 2017

Universidad Politécnica de Madrid
Excellent academic record (top 5% students)
Final Thesis: *Cum Laude*

ACHIEVEMENTS

- Award for best teacher in second year of Aerospace Engineering 2021-2022
- AIRBUS Chair Diploma for best record in Aircraft Intensification in Master
- Excellent Academic Achievement (top 20) in Master and Bachelor's Degrees
- Scholarship for Academic Excellence in 2012-13, 2013-14, 2014-15
- University Entrance Test Best 100 marks in Madrid

PROFILE

Aeronautical Engineer passionate about learning. Problem-solving and proactive attitude. Strong technical and programming skills.

Finishing a PhD in computational mechanics, focused on structural optimization and metamaterials with machine learning techniques. Previous experience in Airframe Data Analytics at AIRBUS.

RESEARCH AREAS

Topology Optimization, Graph Neural Networks, Data-driven/Physics-based Machine Learning, Metamaterials

- 7 first-author publications (9 in total)
- Brain cancer software
- Metamaterial patent
- Paper awarded with Editor's choice

IT SKILLS

Python	●●●●●
MATLAB	●●●●●
Julia	●●●●●
TensorFlow	●●●●●
Fortran	●●●○○
C++	●●●○○
HyperWorks	●●●●○
ParaView	●●●●○
LINUX	●●●○○
MS Office	●●●●●

LANGUAGES

Spanish	●●●●●
English	●●●●○